

Amendments to the Claims

The following listing of claims replaces all previous listings of claims in the present application.

Listing of Claims:

Claim 1 (currently amended): A transfer apparatus for a sheet material article trimmer, the transfer apparatus comprising:

a transfer element configured to grip the sheet material article and move the sheet material article in a transfer direction onto a moving side table of the sheet material article trimmer, the moving side table carrying the sheet material article; and

a driver configured to move the transfer element at a same speed as the moving side table during a first time period, the speed of the side table and the transfer element varying during the first time period, when the sheet material article is gripped by the transfer element and the side table is moving in the transfer direction.

Claim 2 (original): The transfer apparatus as recited in claim 1 wherein the driver is further configured to move the sheet material article to a predetermined position relative to the side table before moving the transfer element at the same speed as the side table.

Claim 3 (original): The transfer apparatus as recited in claim 1 wherein side clamps of the side table grip the sheet material article during at least a portion of the first time period.

Claim 4 (original): The transfer apparatus as recited in claim 1 wherein a side trimming operation is performed during at least a portion of the first time period.

Claim 5 (original): The transfer apparatus as recited in claim 1 wherein the driver is further configured to move the transfer element at a same speed as a front table of the sheet material article trimmer during at least a portion of a second time period when the transfer element grips the sheet material article and a front clamp of the sheet material article trimmer grips the sheet material article.

Claim 6 (original): The transfer apparatus as recited in claim 1 wherein the driver is further configured to move the transfer element at a same speed as a receiving conveyor of the sheet material article trimmer during a third time period so as to move the sheet material article from the side table onto the receiving conveyor.

Claim 7 (original): The transfer apparatus as recited in claim 1 wherein the transfer element includes at least one continuous belt.

Claim 8 (previously presented): The transfer apparatus as recited in claim 7 wherein the at least one continuous belt includes an upper belt and a lower belt for engaging the sheet material article therebetween.

Claim 9 (original): The transfer apparatus as recited in claim 1 wherein the transfer element includes a shuttle mechanism.

Claim 10 (original): The transfer apparatus as recited in claim 1 wherein the driver includes an epicycle gear unit, the epicycle gear unit including a constant speed input member driven by a main trimmer drive of the sheet material article trimmer and a variable speed input member configured for varying an output of the epicycle gear unit so as to vary a speed of the transfer element.

Claim 11 (original): The transfer apparatus as recited in claim 1 wherein the driver includes a servo motor configured to vary a speed of the transfer element.

Claims 12 to 20 (cancelled).

Claim 21 (previously presented): The transfer apparatus as recited in claim 1 wherein the driver moves the transfer element during the first time period to match a reciprocating motion of the side table.

Claim 22 (previously presented): The transfer apparatus as recited in claim 21 wherein the first time period corresponds to 130 degrees of the reciprocating motion of the side table.

Claim 23 (previously presented): The transfer apparatus as recited in claim 1 wherein the driver moves the transfer element during the first time period to exhibit a curved velocity profile.

Claim 24 (previously presented): The transfer apparatus as recited in claim 1 wherein the driver both increases and decreases the speed of the transfer element during the first time period.

Claim 25 (currently amended): A transfer apparatus for a sheet material article trimmer, the transfer apparatus comprising:

a transfer element configured to grip the sheet material article and move the sheet material article in a transfer direction onto a side table of the sheet material article trimmer, the side table carrying the sheet material article; and

a driver configured to move the transfer element at a same speed as the side table during a first time period when the sheet material article is gripped by the transfer element and the side table is moving in the transfer direction;

the driver including an epicycle gear unit, the epicycle gear unit including a constant speed input member driven by a main trimmer drive of the sheet material article trimmer and a variable speed input member configured for varying an output of the epicycle gear unit so as to vary a speed of the transfer element.